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ABSTRACT

This definition of the field of educational psychology includes 1) description of the relationship between psychology (concerned with the general aspects of learning) and educational psychology (concerned with classroom learning); 2) a discussion of the decline in knowledge and theorizing about school learning over the past half century, the effects of the retreat of educational psychologists from the classroom, and the status of educational psychology as an applied discipline; 3) a list of four critical prerequisites which must be met before educational psychology can emerge as a viable and flourishing discipline; 4) prediction of the emergence of four trends in the coming decade and description of the future shape of the discipline--an autonomous discipline with its own theory and methods, continuing to be influenced by the parent discipline of psychology. The major thesis is that educational psychology is that special branch of psychology concerned with the nature, conditions, outcomes, and evaluation of school learning and retention; as such, the subject matter of educational psychology consists primarily of the theory of meaningful learning and retention and the influence of all significant variables--cognitive, developmental, affective, motivational, personality, and social--on school learning outcomes. (JS)

Educational Psychology as a Discipline for Prospective Teachers

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Is there such a discipline as educational psychology? It is certainly not the case that I perceive this question as irrelevant or irreverent. Quite the contrary, it follows very pertinently if one examines many textbooks of educational psychology that were written during the past thirty years. In fact, from the conception of educational psychology inferable from analysis of the contents of these textbooks -- that is, as a superficial, ill-digested, and typically disjointed and watered-down miscellany of general psychology, learning theory, developmental psychology, social psychology, psychological measurement, psychology of adjustment, mental hygiene, client-centered counseling and child-centered education -- one would be hard put not to give a negative answer to the question raised by the title of my paper.

Definition of the Field

My thesis, in brief, is that educational psychology is that special branch of psychology concerned with the nature, conditions, outcomes, and evaluation of school learning and retention. As such, the subject matter of educational psychology consists primarily of the theory of meaningful learning and retention and the influence of all significant variables -- cognitive, developmental, affective, motivational, perso-

nality, and social -- on school learning outcomes, particularly the influence of those variables that are manipulable by the teacher, by the curriculum developer, by the programmed instruction specialist, by the educational technologist, by the school psychologist or guidance counselor, by the educational administrator, or by society at large.

Psychology versus Educational Psychology

Since both psychology and educational psychology deal with the problem of learning, how can we distinguish between the special theoretical and research interests of each discipline in this area? As an applied science, educational psychology is not concerned with general laws of learning per se, but only with those properties of learning that can be related to efficacious ways of deliberately effecting stable cognitive changes which have social value (Ausubel, 1953). Education, therefore, refers to guided or manipulated learning directed toward specific practical ends. These ends may be defined as the long-term acquisition of stable bodies of knowledge and of the capacities needed for acquiring such knowledge.

The psychologist's interest in learning, on the other hand, is much more general. Many aspects of learning, other than the efficient achievement of the above-designated competences and capacities for growth in a directed context, concern him. More typically, he investigates the nature of simple, fragmentary, or short-term learning experiences, which are presumably more representative of learning in general, rather than

the kinds of long-term learning involved in assimilating extensive and organized bodies of knowledge.

The following kinds of learning problems, therefore, are particularly indigenous to psychoeducational research: (a) discovery of the nature of those aspects of the learning process affecting the acquisition and long-term retention of organized bodies of knowledge in the learner; (b) long-range improvement of learning and problem-solving capacities; (c) discovery of which cognitive and personality characteristics of the learner, and of which interpersonal and social aspects of the learning environment, affect subject-matter learning outcomes, motivation for learning, and typical ways of assimilating school material; and (d) discovery of appropriate and maximally efficient ways of organizing and presenting learning materials and of deliberately motivating and directing learning toward specific goals.

Another way of epitomizing the difference between the two disciplines is to say that general aspects of learning interest the psychologist, whereas classroom learning, that is, deliberately guided learning of subject matter in a social context, is the special province of the educational psychologist. The subject matter of educational psychology, therefore, can be inferred directly from the problems facing the classroom teacher.

The Decline of Classroom Learning Theory

The serious decline in knowledge and theorizing about school learning that has taken place over the past half century, accompanied by

the steady retreat of educational psychologists from the classroom, has not been without adequate cause. Much of this deliberate avoidance can be attributed to the scientific disrepute into which studies of school learning fell as a result of both (a) glaring deficiences in conceptualization and research design, and (b) excessive concern with the improvement of particular narrowly conceived academic skills and techniques of instruction rather than with the discovery of more general principles affecting the improvement of classroom learning and instruction in any subject-matter field. The vast majority of studies in the field of school learning, after all, have been conducted by teachers and other non-professional research workers in education. In contrast, laboratory studies of simple learning tasks were invested with the growing glamour and prestige of the experimental sciences, and also made possible the investigation of general learning variables under rigorously controlled conditions.

Thus the more scientifically conducted research in learning theory has been undertaken largely by psychologists unconnected with the educational enterprise, who have investigated problems quite remote from the type of learning that goes on in the classroom. The focus has been on animal learning or on short-term and fragmentary rote or nonverbal forms of human learning, rather than on the learning and retention of organized bodies of meaningful material. Experimental psychologists, of course, can hardly be criticized if laboratory studies of nonverbal

and rote verbal learning have had little applicability to the classroom. Like all pure research efforts in the basic sciences, these studies were designed to yield only general scientific laws as ends in themselves, quite apart from any practical utility. The blame, if any is to be assigned, must certainly fall upon educational psychologists who, in general, have failed to conduct the necessary applied research and have succumbed to the temptation of extrapolating the theories and findings of their experimental colleagues to problems of classroom learning.

Finally, for the past three decades, educational psychologists have been preoccupied with measurement and evaluation, personality development, mental hygiene, group dynamics, and counseling. Despite the self-evident centrality of classroom learning and cognitive development for the psychological aspects of education, these areas were ignored, both theoretically and empirically (Ausubel, 1963).

Although the withdrawal of educational psychologists from problems of meaningful classroom learning was temporarily expedient, it was, in the long run, highly unfortunate on both theoretical and research grounds. In the first place, rotely and meaningfully learned materials are represented and organized quite differently in the student's psychological structure of knowledge (cognitive structure), and hence conform to quite different principles of learning and retention. Not only are the respective learning processes very dissimilar, but the significant variables involved in the two processes are also markedly different, and, where similar, have very different effects. Second, it is evident that a distinction must be made between learning tasks involving the short-term acquisition or single, somewhat contrived concepts, the solution of

artificial problems, or the learning of arbitrary association -- in a laboratory setting -- and long-term acquisition and retention of the complex network of interrelated ideas characterizing an organized body of knowledge that is presented to the learner for active incorporation into his cognitive structure.

Hence the extrapolation of rote learning theory and evidence to school learning problems has had many disastrous consequences. It perpetuated erroneous conceptions about the nature and conditions of classroom learning, led educational psychologists to neglect research on factors influencing meaningful learning, and hence delayed the discovery of more effective techniques of verbal exposition. And, finally, it convinced some educators to question the relevance of learning theory for the educational enterprise, and to formulate theories of teaching that attempt to conceptualize the nature, purposes, and effects of instruction independently of its relationship to learning.

Prerequisites for a Discipline of Educational Psychology

The foregoing historical considerations and substantive propositions regarding the definition of the field of educational psychology, its relationships to general psychology, and its status as an applied discipline lead to the conclusion that a minimum number of crucial prerequisites must first be met before educational psychology can emerge as a viable and flourishing discipline. First the acquisition of certain basic intellectual skills, the learning and retention of subject-matter

knowledge, and the development of problem-solving capabilities must be regarded as the principal practical concerns toward which theory and research in this area of inquiry are directed. Second, the attainment of these objectives must be conceptualized as products of meaningful verbal or symbolical learning and retention, and a cogent theory of such learning and retention must be formulated in terms of manipulable independent variables. Third, the elaboration of this theory implies the delineation of unambiguous distinctions between meaningful learning, on the one hand, and such other forms of learning as classical and operant conditioning, rote verbal and instrumental learning, perceptual-motor and simple discrimination learning, on the other, as well as clear distinctions between such varieties of meaningful verbal learning as representational or vocabulary learning, concept learning, and propositional learning, and between reception and discovery learning. Finally, meaningful verbal learning must be studied in the form in which it actually occurs in classrooms, that is, as the guided, long-term, structured learning in a social context of large bodies of logically organized and interrelated concepts, facts, and principles rather than as the short-term and fragmented learning of discrete and granulated items of information such as is represented by short-frame and small-step-size teaching machine programs.

The Predicted New Look in Educational Psychology

It is obviously difficult to separate the objective delineation

of future research trends in educational psychology from a statement of personal values and preferences in this area. Nevertheless, although frankly conceding this serious limitation at the very outset, I still venture to predict the emergence of four major trends in the coming decade. First, I am confident that educational psychologists will return to the classroom to study the kinds of learning processes that are involved in the meaningful acquisition of subject-matter knowledge, instead of continuing to extrapolate to such processes theories and evidence derived from highly simplified instances of nonverbal or rote verbal learning in laboratory situations. Second, I think we will shortly cease pretending that meaningful classroom learning consists merely of a designated series of problem-solving tasks, and will also make a serious attempt to study the learning of ideas and information presented by teachers and textual materials. Third, I feel reasonably certain that we will devise appropriate methods of investigating the effects of general variables influencing meaningful learning, both singly and in combination, instead of vainly seeking to speculate about these effects from the results of particular curriculum improvement projects (e.g., the PSSC, the UICSM) in which an indeterminate number of variables are manipulated in uncontrolled and indeterminate fashion. Lastly, I am hopeful that we will focus our attention increasingly on the long-term learning and retention of large bodies of sequentially organized subject matter rather than on short-term mastery of fragmentary learning tasks.

What about the product of this research activity, that is, the future shape of the discipline? I am hopeful that the educational psychology of tomorrow will be primarily concerned with the nature, conditions, outcomes and evaluation of classroom learning, and will cease being watered-down and eclectic amalgam of rote learning theory, developmental and social psychology, the psychology of adjustment, mental hygiene, measurement, and client-centered counseling. Thus, hopefully, the new discipline will not consider such topics as child development, adolescent psychology, the psychology of adjustment, mental hygiene, personality, and group dynamics as ends in themselves but only insofar as they bear on and are directly relevant to classroom learning. It will confine itself only to such psychological theory, evidence, problems, and issues that are of direct concern either to the serious student of education or to the future teacher in his role as facilitator of school learning. It will also eliminate entirely many normally covered topics in educational psychology courses which are typically drawn from general and developmental psychology and which bear little or no relation to classroom learning. Examples of such topics include the nature and development of needs, general determinants of behavior, general reactions to frustration, developmental tasks, mechanisms of adjustment, parent-child relationships, noncognitive development during infancy and the pre-school years, and physical development. It is true, for example, that physical development during childhood affects motor coordination, writing, and popularity in the peer group,

and that physical changes in adolescence affect the self-concept, emotional stability, peer relations, and athletic skills. But an educational psychology course cannot cover everything. Prospective elementary-school teachers will presumably have a course in child development, and prospective secondary-school teachers will presumably have a course in adolescent psychology. Similarly, certain aspects of motivation are obviously relevant for classroom learning, but a general discussion of needs, their nature, function, development, and classification, such as would be appropriate in a course in general psychology, hardly seems necessary.

One might reasonably anticipate that the new discipline of educational psychology will be principally concerned with the kinds of learning that take place in the classroom, that is, with meaningful symbolic learning -- both reception and discovery. Some kinds of learning, such as rote learning and motor learning are so inconsequential a part of school learning as to warrant no systematic treatment in a course on educational psychology. Other kinds of learning, for example, the learning of values and attitudes, are not indigenous to the primary or distinctive function of the school, and should be considered only insofar as they affect or are part of the learning of subject matter; their more general aspects may be left to such courses as general and social psychology. And still other kinds of learning, for example, animal learning, conditioning, instrumental learning, and simple dis-

crimination learning, are wholly irrelevant for most learning tasks in school, despite the fact that wildly extrapolated findings in these areas quite commonly pad the learning chapters of many educational psychology textbooks. The new discipline, also, will hopefully not be ecletic in theoretical orientation, but will proceed from a consistent theoretical framework or point of view based on a cognitive theory of meaningful verbal learning. Greater stress would be placed on cognitive development than was true in the past, and this material would be integrated more closely with related aspects of cognitive functioning.

Finally, an effort should be made to employ a level of discourse in teaching educational psychology that is appropriate for prospective teachers and mature students of education, that is, to avoid oversimplified explanations, language, and presentation of ideas. Educational psychology is a complex rather than a simple subject. Hence to oversimplify it is to render the beginning student a serious disservice. Clarity and incisiveness of presentation, also, do not require reversion to a kindergarten level of writing and illustration. In fact, it is my firm conviction that much of the thinly disguised contempt of many prospective teachers for courses in pedagogy and educational psychology stems from the indefensible attempt to expose them to watered-down, repetitive content and to an unnecessarily elementary level of vocabulary, sentence structure, illustration, example, and pedagogic device.

It is true, of course, that if educational psychologists limit their coverage of learning to meaningful verbal learning, the unfortunate paucity of experimental evidence in this area becomes painfully evident. This situation is a reflection of the prevailing tendency, over the past three or more decades, for educational psychologists to extrapolate findings from animal, rote, and perceptual-motor learning experiments rather than to conduct research on meaningful verbal learning. In my opinion, presenting certain significant theoretical propositions to students without definitive empirical support for the time being would be preferable to leaving large gaps in theory or filling them by means of unwarranted extrapolation.

In conclusion, therefore, educational psychology is unequivocally an applied discipline, but it is not general psychology applied to educational problems -- no more so than mechanical engineering is general physics applied to problems of designing machinery or medicine is general biology applied to problems of diagnosing, curing, and preventing human diseases. In these latter applied disciplines, general laws from the parent discipline are not applied to a domain of practical problems; rather, separate bodies of applied theory exist that are just as basic as the theory undergirding the parent disciplines, but are stated at a lower level of generality and have more direct relevance for and applicability to the applied problems in their respective fields.

The time-bound and particular properties of knowledge in the applied sciences has also been exaggerated. Such knowledge involves more than technological applications of basic science generalizations to current practical problems. Although less generalizable than the basic sciences, they are also disciplines in their own right, with distinctive and relatively enduring bodies of theory and methodology that cannot simply be derived or extrapolated from the basic sciences to which they are related. It is simply not true that only basic-science knowledge can be related to and organized around general principles. Each of the applied biological sciences (e.g., medicine, agronomy) possesses an independent body of general principles underlying the detailed knowledge in its field, in addition to being related in a still more general way to basic principles in biology.

In much the same way, educational psychology, in my view, must evolve as an autonomous discipline with its own theory and methodology, but must obviously continue to be influenced by the parent discipline of psychology -- as an independent adult peer rather than as a dependent child with a wholly derivative status.